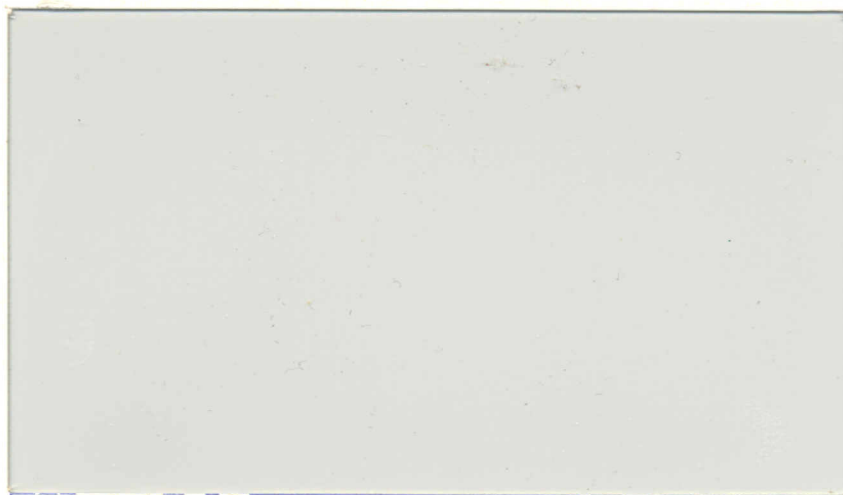




Product: QM-MSP-CON

Product Number: 2194 (CON/4), 2294 (CON/2)

Manual Number: 2894-01

Chapter	Rev	Note
ALL	1.0	1

QBX-MSP-CON

RS232 D-TYPE CONNECTORS FOR THE QBX-MSP

USER MANUAL

Notes:
1. Original Document

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Page 1.0

Product:- QBN-MSP-CON

Product Number:- 2104 (CON/4), 2204 (CON/2)

Manual Number:- 2004-01

Chapter	Rev	Note
ALL	1.0	1

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CHAPTER 1 GENERAL

Introduction

The QBX-MSP is one of the growing range of iSBX bus compatible boards manufactured by Quantum Electronics. The QBX-MSP-CON is made to support this board. This document provides all the information required to install and use the QBX-MSP-CON in conjunction with the QBX-MSP.

Two models of the QBX-MSP-CON exist, the /2 and /4. The CON/2 is a depopulated version of the CON/4 made for the QBX-MSP/2.

Specifications

Environment:

Operating temperature 0 - 55 degrees Celsius, humidity 5 - 90% non condensing.

Cable:

26 way ribbon cable 1/2 metre (19.6 ins)

Size:

Width: 60 mm (2.35 in)

Length: 150 mm (5.91 in)

Height: 17 mm (0.67 in)

Clearance: 3 mm (0.12 in) (excluding mounting hardware for earthing connector body, not supplied).

Weight:

CHAPTER 2 DESCRIPTION

Introduction

The QBN-MSP-CON is made specifically for the QBX-MSP to simplify connections of peripheral serial RS232 devices. It consists of four (CON/4) or two (CON/2) 25 way subminiature D-type connectors on a printed circuit board. For each connector there is a "configurator" allowing each connector's pinout to be customised. The PCB is connected to the QBX-MSP by 1/2 metre of ribbon cable.

Configurator

Table 2.1 shows the way each configurator socket is made up. Included with the QBN-MSP-CON for each configurator socket is a configuration header. Unprogrammed this header has opposing pins shorted together. The user must programme these headers by breaking links, or replacing the header with one of his own, such as the Robinson-Nugent WPB 163 or MPB 163.

Figure 2.1 shows this diagrammatically.

QBX-MSP function	to Config- urator pin	Opposing Con- figurator pin	D type conn- ector pin	RS232 function
GND	15	2	7	gnd
+12V < \	16	1	N.C.	
	10	7	6	DSR
	9	8	8	RLSD
RxD	14	3	2	TxD
CTS	13	4	4	RTS
TxD	12	5	3	RxD
RTS	11	6	5	CTS

Table 2.1
Configurator Socket Connections

Table 2.2 shows the different functions and their pin numbers.

The intention is that by connecting opposite pins on the configurator the D-type connector becomes immediately ready to accept an RS232 connector from a VDU or printer.

Earthing

Pin 1 of each connector is joined electrically to the mounting holes of the QBX-MSP-CON. When mounted these are shorted to the host chassis which is normally system earth. The body of the D-type connector itself may be earthed by affixing a nut and bolt (not supplied) to short the connector to its (earthed) mounting hole.

Equipment Supplied

The QBX-MSP-CON is shipped in a padded package. Included in this

package are the basic printed circuit board with 2 or 4 25 D-type connectors, and configurator sockets. Attached to the board via a solder transition connector is a 26 way ribbon cable. At the other end is a connector to mate to the QBX-MSP. Also present are 2 or 4 configurator plug in headers.

QBX-MSP function	QBX-MSP edge connector	Ribbon Cable Connector
Channel C		
gnd	1	2
+12V	2	1
CTS	3	4
RxD	4	3
RTS	5	6
TxD	6	5
Channel D		
gnd	7	8
+12V	8	7
CTS	9	10
RxD	10	9
RTS	11	12
TxD	12	11
Channel A		
gnd	13	14
+12V	14	13
CTS	15	16
RxD	16	15
RTS	17	18
TxD	18	17
Channel B		
gnd	19	20
+12V	20	19
CTS	21	22
RxD	22	21
RTS	23	24
TxD	24	23
N.U.	25	26
N.U.	26	25

Table 2.2
Ribbon Cable Connection and Functions

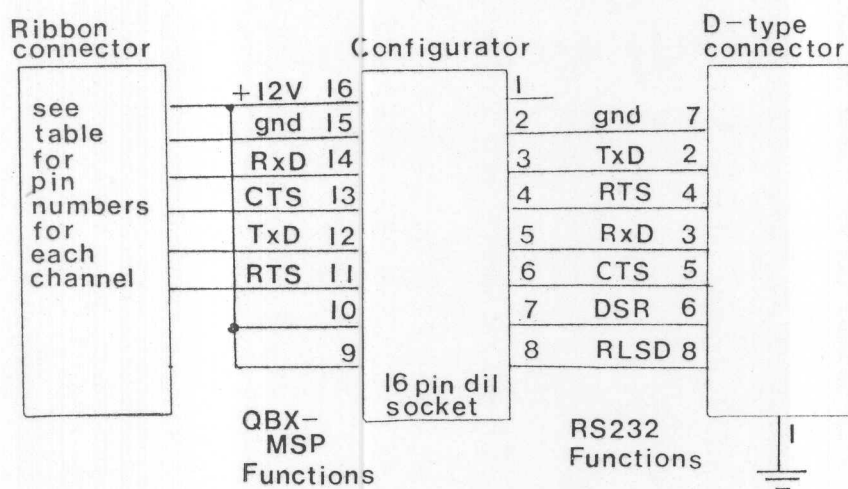


Figure 2.1
Functional Connection to Configurator

CHAPTER 3 PREPARATION FOR USE

Introduction

This chapter provides information on the installation of the QBX-MSP-CON.

Unpacking

The QBX-MSP-CON is shipped in a padded packet. On receipt of the package inspect immediately for signs of damage, water or any other signs of mishandling. If there are any of these signs contact your carrier or his agent, or the local Quantum Electronics agent. If you do open the package, please retain the packaging.

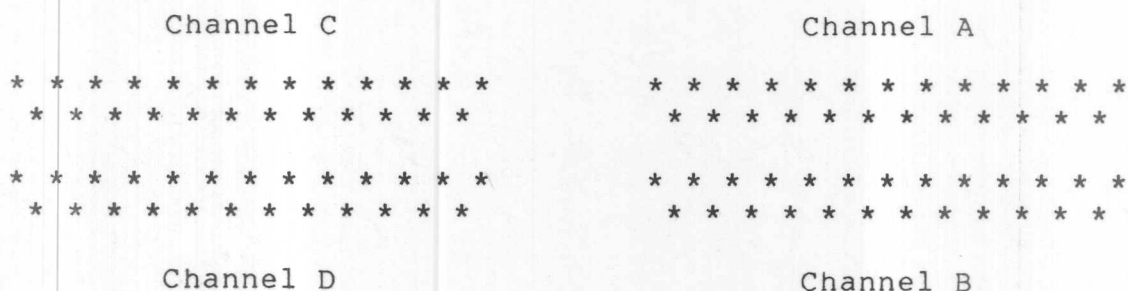
Mounting

The QBX-MSP-CON is low enough to mount on the back of an Intel iSBC 655 System Chassis. Figure 3.1 provides the dimensions of the necessary mounting holes. Clearance of 3 mm is required between the QBX-MSP-CON board and the supporting plate. (This excludes mounting nuts and bolts to earth the body of the connector.) The mounting screws provide the electrical connection from all the Protective Grounds (pin 1 D-type connector) to the system chassis.

Note that the chassis earth is only connected to the 4 mounting holes at the 4 corners of the board.

Affix the QBX-MSP-CON to the supporting plate and mate the ribbon cable connector to the QBX-MSP edge connector. Pin 2 of the ribbon cable connector corresponds to pin 1 on the edge connector.

The QBX-MSP-CON is now ready for use. Channel allocation facing the board with the ribbon cable connector at the bottom is as follows:



```

-----
| Ribbon |
| connector |
-----

```

Figure 3.2
Channel Connector Positioning

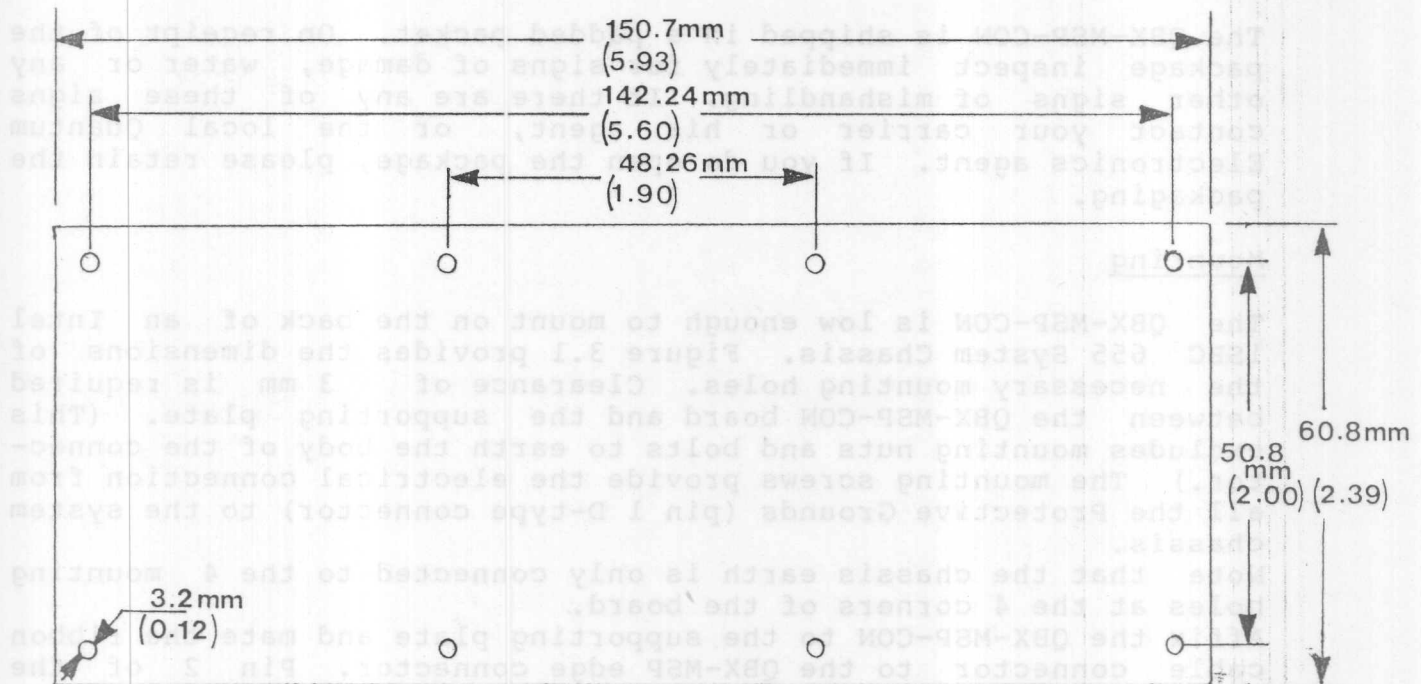


Figure 3.1
Board Dimensions
(bracketed figures are in inches)

CHAPTER 4 SERVICE

Introduction

Whilst there is very little that can go wrong with the QBX-MSP-CON except for electrical shorts or breaks in continuity, this chapter provides all the information required to repair it.

Parts List

C1-2	25 way D-type subminiature connector female straight solder pin Positronics or similar	MDU 25F-300
C3-4*	"	
SK1-2	16 way dil socket	
SK3-4*	"	
C6	26 way solder transition connector Robinson-Nugent or similar	IDT-26-1-T
Cable	26 way ribbon, 0.5 metre	CAB 26
C5	26 way edge connector for ribbon cable Robinson Nugent or similar	IDE-26
P1-2	Configuration header Aries or similar	16-675-
P3-4*	"	191T

* omitted on QBX-MSP-CON-2

Connections

Table 4.1 shows the relation between the ribbon cable and each connector.

Ribbon cable #	Configurator	DIL Connector	Opposing Pin	D-type Connector	Connector Pin
1	C	16	1	C	6
2	C	10	7	C	8
3	C	9	8	C	7
4	C	15	2	C	2
5	C	14	3	C	4
6	C	13	4	C	3
7	C	12	5	C	5
8	D	11	6	D	6
9	D	16	1	D	7
10	D	10	7	D	2
11	D	9	8	D	4
12	D	15	2	D	3
13	D	14	3	D	5
14	D	13	4	D	6
15	D	12	5	D	7
16	D	11	6	D	2
17	A	16	1	A	4
18	A	10	7	A	3
19	A	9	8	A	5
20	A	15	2	A	6
21	A	14	3	A	7
22	A	13	4	A	2
23	A	12	5	A	4
24	A	11	6	A	3
25	B	16	1	B	5
26	B	10	7	B	6
27	B	9	8	B	7
28	B	15	2	B	2
29	B	14	3	B	4
30	B	13	4	B	3
31	B	12	5	B	5
32	B	11	6	B	6

Figure 4.1
Ribbon Cable Connections